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American Cinematographer

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Vol. VIII NOVEMBER, 1927 No. 8

American Cinematographer

SILAS EDGAR SNYDER
Editor and General Manager

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Technical Editor

Table of Contents

Page

Celestial Photography—
By Alfred H. Joy 4

The Use of Globe Lamps—
By Peter Mole 6

"The Stills Move the Movies"—
By Joseph Stillman 7

Amateur Cinematography Part XIII
By Joseph Dubray 10

First Aid Facts 19

Gag Photography—
By P. K. Thomajan 20

The Art of Getting Together—
By Grant Carpenter 21

Heliochromy—
By Fred McBan 23

Cinema Psychology—
By Malcolm Knight 24

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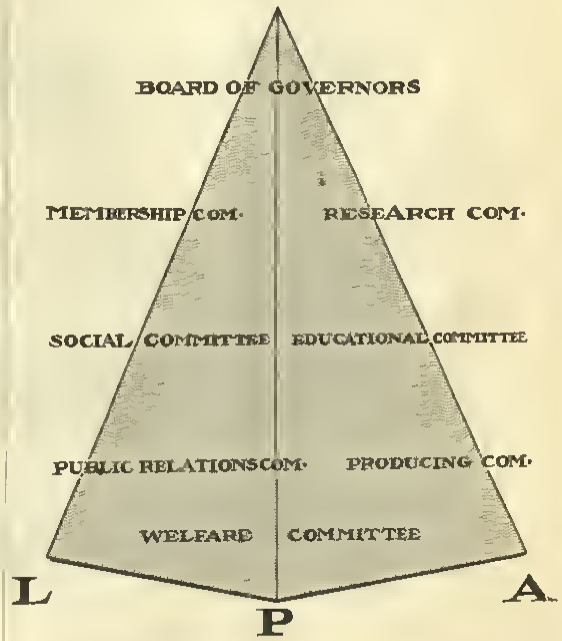
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A. S. C.

The Pyramid of Progress



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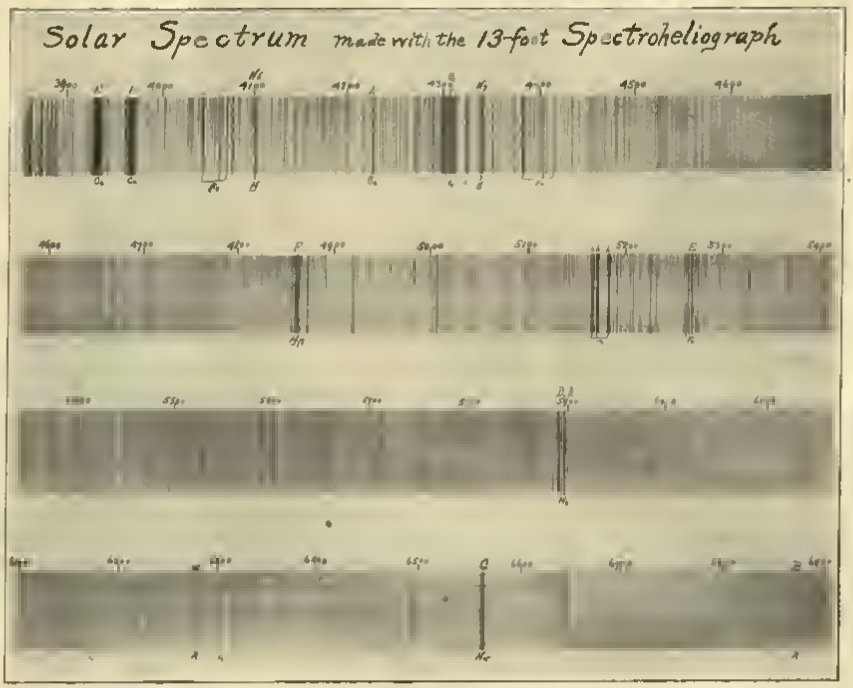
Celestial Photography

Practice at Mount Wilson Observatory Of The Carnegie Institute of Washington

By Alfred H. Joy

Secretary of the Observatory

More than ninety per cent of the astronomical investigations mads at the Mount Wilson ohservatory depend upon the use of photography. For research work, photography has many advantages over the visual methods employed by the astronomer of fifty years ago. It gives a permanent record, easily accessible to study and accurate measurement, and, on account of that characteristic property of the photographic plate hy which images of faint objects are built up by continued exposure over long periods of time, it reveals stars and nebulas whose feeble light would never impress itself upon the human eye even with the aid of the greatest tsle-scopes. Furthermore, the photographic plate, when carefully handled, is not subject to the various uncertainties found in observations made by the eye. Even the best visual observers must admit certain psychological and personal errors, hut the photograph records faithfully the light falling upon it.



Spectrum of the sun from the violet to the red
Taken on pan chromatic and red sensitive plates

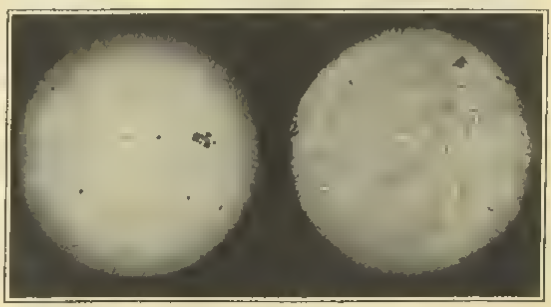
For the purposa of direct photography of the celestial bodies the great telescopes on Mount Wilson serve merely as cameras of largs apertura. The focal ratio is 1.5. A concave mirror of silvered glass is used to collect the light and bring it to a focus at the plate. The 100-inch reflector gathers 10,000 times as much light as a camera with a one-inch lens, and it is consequently extremely rapid for stars which are hut points of light. In other words, it will record an image of a star whose distance is so great that it takes 500 years for its light to reach us in the same time that a one-inch camera would photograph it, were it hrought as close to the earth ss the nearest known star. In this manner it penetrates into ths depths of space to incredible distances estimated at 50 million light years, or 300 million-million-million miles. The fainter objects requira exceedingly long exposures of many hours duration, using tha most rapid plates. If faster emulsions could be had it would add to the efficiency of astronomical observation almost as much as increasing the size of the telescope.

For twenty-three years daily direct photographs of the sun have been made with a focal plane shutter. Also, plates have been taken with the spectroheliograph to show the distribution of calcium and hydrogen in the sun's atmosphere. This record of solar activity is invaluable for the study and interpretation of many problems in connection with sunspots and solar radiation.

In order to determine color or temperature of stars, photographs ara often made with different filters and emulsions sensitized for the appropriate colors.

The spectrum is of especial importance in astronomical study, because it is the means of obtaining a vast fund of information about the conditions prevailing on the various heavenly bodies. Tha

(Continued on Page 22)



Photoğraph of the sun taken directly with focal plane shutter, exposure one-ten-thousandth of a second, and spectrohelioğram taken with the red line of hydroğen showinğ the distribution of hydroğen in the upper layers of the sun's atmosphere.

EDITORIAL--The Voice of the A. S. C.

Improvements in the physical and literary features of THE AMERICAN CINEMATOGRAPHER will go steadily forward until such time as we are able to present to our readers a magazine approximating the ideal in a technical publication. Our new front cover this month is designed by John C. Hill, pioneer Hollywood artist, who has woven into the border "still" pictures from outstanding productions in cinema history symbolic of the march of events from "The Clansman" and "Intolerance" down through the years to the present time including "The Four Horsemen," "Abraham Lincoln," "The Iron Horse," "Zorro," "The Covered Wagon," "Robin Hood," "Kismet," "The Barrier," "Shoulder Arms," "Ben Hur," "Old Ironsides," "The Gold Rush," "The Volga Boatman," "The King of Kings," "What Price Glory," "The Seventh Heaven," "The Black Pirate," etc., etc. For these stills THE CINEMATOGRAPHER is indebted to Directors of Publicity Arch Reeve of Lasky; Pete Smith and Howard Strickling of M.-G.-M.; Robert Yost of Fox; Mark Larkin of Douglas Fairbanks; Chas. West and Phil Gersdorf of De Mille; George Landy of First National.

A development of interest to all the industry is the negotiation now in progress between the A. S. C. and officials of the Southern California Telephone Company looking to the production of a two-reel subject setting forth the technique of first-aid and the great advantages of its employment in industrial organizations. Details of the proposed film are being worked out by a committee and further announcements will be made in the near future.

Be prepared for important announcements of inventions and improvements in the fields of cinematography, illumination, laboratory practice, and allied arts and crafts. Everybody is researching and this is the truest indication of a healthy condition in these departments of the industry.

The Board of Governors of the A. S. C. officially expresses the gratitude of the Society to Alvin Wycoff for his gift of 191 numbers of "The Photo Miniature" dating from Vol. No. I, April, 1899 to Vol. XVI, December, 1923. This contribution to the library of the A. S. C. is invaluable to the student of photography and Mr. Wycoff's fine spirit in presenting so valuable a work to the Society is enthusiastically applauded by all.

The A. S. C. is very much in earnest in regard to the instruction of its members in the art of first-aid and its introduction generally into the motion picture industry. Recent demonstrations in first-aid arranged by President Daniel B. Clark, of the A. S. C., have proved to be of great interest to the many picture workers who attended and every effort will be made to intensify their interest and to broaden the field of operation. Other demonstrations will be arranged and the greatest experts in first-aid will be entrusted to instruct the motion picture operatives so that first-aid as practiced in the pictures will be as efficient as possible.

The question of saturation in motion picture attendance in the United States is a fruitful subject and one that just now is attracting the attention of the economists of the industry. It is very likely that nobody is able to speak authoritatively on the subject with even approximate figures to back up estimates, and the wise ones have guessed all the way from 20 to 80 per cent as representing the people who are yet to be won over to the movies before saturation is approximated. But even a casual observer would probably arrive at the conclusion that the saturation point is far in the future and that there is still a world of "selling" to be done. The campaign of education should be speeded up, for the people need the movies as much as the movies need the people and greater co-operation will make for the production of more and better pictures on the one side and for better living through better entertainment on the other.

The A. S. C. will celebrate its Tenth Birth Anniversary in December, 1928. The exact date is December 18, if you want to paste it in your hat for reference. And that might be a good idea, for this birthday party will be the biggest and best entertainment stunt ever "pulled" in the long history of motion picture events. Our readers have heard much of the doings of the Wampas and the A. M. P. A. and far be it from the bumble cameramen to rain on their parade, but really this Tenth Anniversary thing will make all these efforts of our publicity brothers look like three cents worth of lard in a paper sack. It's too bad, but it just can't help being done, so take notice now and run—don't walk—to your calendar and draw a blue ring around December, 1928, to remind you that something besides Christmas is going to happen in that month.

P. S.—The time for the Big Doings will be set at a time so as not to conflict with the Christmas stuff.

The Use of Globe Lamps

Incandescent Tungsten Lamp Situation In The Hollywood Motion Picture Studios

By PETER MOLE
President Mole & Richardson, Inc., Hollywood

[This paper was submitted by Mr. Mole to the September meeting of the Society of Motion Picture Engineers, at Lake Placid, New York. Cinematographers and producers will find its subject matter of peculiar interest just at this time.—EDITOR'S NOTE.]

The general use of panchromatic negative film for the taking of motion pictures has introduced into the studios new problems in general illumination of the sets which in time will, no douht, necessitate a change in present day lighting equipment.

The purpose of this paper is to deal not in technicalities or enter into a discussion as to the relative merits of either type of lighting—the incandescent, Cooper-Hewit or arc light equipment; but will deal only with the development of the high wattage incandescent lamps of equipment in Hollywood studios up to the present time.

It might be well, however, to review the early development of the high wattage incandescents lamps of the type used in the studios at the present time. It was around 1920 when Maude Adams first appealed to the General Electric Company for aid in developing a lighting unit which would enable her to successfully proceed with a new process for the taking of motion pictures in color. This was what really brought about the development of the 30,000 and 10,000 watt incandescent tungsten lamps.

Some time later, the Harrison Lamp Works of the General Electric Company made up some of the 3,000, 5,000 and 10,000 watt lamps at the request of the Eastman Kodak Company for use in their experimental motion picture studio at Rochester, New York. The results of their experiment with these lamps are covered in part by Mr. L. A. Jones' paper on "Incandescent Tungsten Lamp Installation for Illuminating Color Motion Picture Studio," as presented at the September, 1925, meeting of your society.

With the introduction of the panchromatic film the cinematographers made considerable use of the low wattage incandescents for close-up work. The results obtained in this work were so satisfactory from the photographic standpoint it led to a desire on the part of the cinematographers to use this source of light to illuminate their entire set as well as the "close-ups."

It was at this point they found there was no commercial equipment available to substitute for their present "arc spots," and "GE suns." The first equipment to replace the GE High Intensity 120 amp. spots and GE 150 amp. High Intensity suns was furnished by Mole-Richardson, Incorporated, Hollywood, California, at the request of the Metro-Goldwyn-Mayer Studios through their Chief Engineer, Lewis Kolb, and consisted of ten 24-inch standard "sun" housings with pedestals equipped with 24-inch long focus parabolic mirror with a base suitable for the 10,000 watt lamp.

In designing this equipment wa were somewbat handicapped due to the fact that it was necessary to follow certain specifications which called for the housings to be so designed as to be adaptable to both the 150 amp. High Intensity arc elements as well as the 10,000 watt incandescent lamp. The efficiency of this unit could no doubt have been increased considerably if this equipment had been designed especially for the 10,000 watt incandescent lamp. These lamps bave been successfully used in regular production. In some cases they are used on the sets in combination with the regular arc light equipment and in other cases used only with other incandescent lights. In both cases they bave proven very successful.

About the same time Metro-Goldwyn-Mayer were working with the 10,000 watt incandescent lamps, Warner Bros. Studio, under the supervision of F. N. Murphy, their Chief Engineer, was producing a picture called "The First Auto" using incandescent lamp units of not over 1,000 watt and used in a few cases some arc spot equipment. After viewing some of the scenes from this picture I personally feel that a great deal of credit is due them for their aggressiveness.

In preparing the picture "The West Pointer," the DeMille Studio found it necessary to send a company on location to the West Point Military Academy at West Point, New York. It was found practically impossible to take the necessary arc light equipment to photograph the many interiors on tbe campus grounds.

By the time the West Point company was ready to leave there had been developed a suitable lamp for spot light work, 18 inches in diameter, using a spun metal or glass parabolic mirror and equipped with either a 2,000 or 3,000 watt incandescent lamp. There was also used in front of the incandescent lamp a condensing lens to collect the light from the front face of the filament and by means of independently focusing the lamp toward the mirror to secure the size of spot required and then focusing the condensing lens with respect to the lamp it therehy intensified the spot and also cleared up the so-called "ghost" which is somewhat pronounced when spreading a beam of light from parallel rays.

Tests had been carried on at the DeMille Studio under William Whistler, Chief Engineer and Peverell Marley, Chief Cinematographer, who photographed "King of Kings," and as a result of those tests it was decided to use incandescent equipment for this particular location.

The equipment taken to West Point by the DeMille Studio consisted of:

- 10—18-inch MR Incandescent Sunspots
- 20—Double MR Incandescent Broadsides
- 15—Single MR Incandescent Broadsides
- 6—Condensing Lens Spots

The 18-inch Sunspots used a 2,000 watt G 48 lamp, the double broadside used two 1,000 watt T-20 lamps, the single broadside used 1,000 watt G 40. All of this equipment was designed and manufactured by Mole-Richardson, Incorporated, Hollywood, California. With this equipment they photographed all the locations except the chapel and the formal dance and on account of the size of these two scenes it was necessary to use additional arc equipment as no more incandescent equipment was available.

In addition to the above equipment the DeMille Studio have equipped every company operating in their organization with incandescent lighting equipment for close-up work.

Before starting the picture "The Rose of Monterey" around June 1st of this year, Lee Garms, cinematographer of the First National Picture Corporation, working with Walter Strohm, Chief Engineer, made tests with incandescent tungsten light and panchromatic film with the result that seventy-five percent of the entire production of this picture was photographed with this type of lighting. Arc light equipment was used where the sets were of such proportion that the available incandescent equipment would not entirely cover them to advantage.

The operating costs of the electrical department for this particular picture witb incandescents amounted to

(Continued on Page 18)

The Stills Move the Movies

By Joseph Stillman

"The little brother to the motion picture camera" is turning out a guide in the realms of artistic depiction, according to new developments in the studios. The humble "still" camera is being used, both in portraiture and in dramatic scenes, to pioneer the way to new and striking photographic effects which, perfected in "stills," later become part and parcel of the motion picture itself.

This has been developed at the Metro-Goldwyn-Mayer studios in a system by which the "still" camera is used largely as a pathfinder for photographic effects, and the artistic work of the portrait photographer is gradually being woven into new devices for the expert behind the "movie" apparatus.

"Still" photographers, according to Clarence Bull, head of the still photography department at the studio, today study their productions just as intently as do the directors and artists themselves in the endeavor to translate not only to the screen but to the photographs of scenes and players the spirit of the picture.

"We consider our end of the industry as of just as much importance as the photographer of the film itself," says Bull, "and the still camera in this modern day must at all times keep pace with the work of the other camera.

"Motion pictures are sold both to exhibitors and public by means of the 'still,' and this originated the demand for novelty and accurate depiction of the spirit of scenes and plays. Then it was found that experiments in light and shade, worked out cheaply and accurately in the still pictures, formed a basis for new film effects. So today in many cases the still picture is the guide to a new film effect, and we have several notable artists in this work at the studio.

"For instance, we have Milton Browne, responsible for the beautiful still photography in the Lillian Gish pictures, and whose camera effects have served in a number of cases to set new precedents for the screen. Browne is one of the cleverest artists in translating emotional meanings to terms of light and shade in the industry.

"Another example is Wallace Chewning. Chewning forsook the ranks of motion picture cameramen to become a still photographer, approaching this task with a comprehensive knowledge of screen requirements and with the idea of utilizing still photography in aiding the film effects of pictures.

"On the last Lon Chaney picture, 'The Hypnotist,' he passed weeks of study, using the script and light effects to devise methods of translating fear to terms of photography. Chaney's picture was a thriller, with the star as a detective in a strange mystery in a haunted house. It naturally lent itself to fantastic shadows and weird effects, and with Chaney's strange makeup and the photographer's uncanny lighting, some really remarkable effects were produced.

"Fred Morgan, who photographs Marian Davies, is an expert in getting animation into still pictures. His views of the vivacious Marian in 'The Fair Co-ed' fairly scintillate with the spirit of youth. The photographer in such a case must paint in light just as a painter paints on canvas to get his effects. Use of light and proper angles of the camera can work wonders."

Each still photographer usually has one particular forte, says Bull, which is discovered and developed at the studio. For instance Homer Van Pelt is best at photographing animals. By the use of lights and angles he can actually get different expressions into the face of an animal, as in his photographs of "Flash" the dog star, in "A Dog of War." Van Pelt is a dog fancier, raising blooded police dogs as a hobby, which accounts to some extent for his special ability in this line. To him the photographing of dogs is of special interest.

William Grimes, on the other hand, is at his best in placing on his plate the dynamic love of John Gilbert and Greta Garbo in "Love," and scenes of this type.



John Gilbert and Greta Garbo. Still by William Grimes.

"These players have an elusive something that is very hard to fathom," says Bull, "and many photographers have failed to really master it. Grimes, however, seems to deftly bring out everything in them, and develop it on his negative. His stills of "Love" tell a graphic, pulsating story of Tolstoy's hero and heroine—just as graphically as does the motion picture film itself."

Then there is also the adventure type of still photographer, often recruited from a newspaper, of which, at the studio, notable cases are James Manatt and Arthur Marion. Manatt is responsible for the "stills" of "The Trail of '98," and gloried in the great snow scenes and the remarkable adventure details in the story of the Klondike gold rush. Incidentally he froze fingers and toes to get the wonderful snow scenes in Alaska and on the Continental Divide, such as the Chilkoot Pass episode. Marion, recruited from the San Francisco dailies, also faces hardship and danger cheerfully to obtain results; he has filmed scenes from airplanes and from under the hoofs of horses.

"Men of this type" says Bull, "are invariably at their best in action stories—thrillers, as for instance a story like "The Trail of '98" or the Tim McCoy pictures. One of our still men walked twenty miles over mountains to get a vista of a Wyoming prairie in a McCoy Western that rivals anything Frederic Remington ever did."

The "still" man, Bull adds, works under more difficulties than the motion picture photographer. He has to erect his apparatus in an instant, usually is hurried by directors anxious to resume production, and granted a minimum of time, while electricians, actors, and others urge him to "do it tomorrow."

"The still man," says Bull, "is the real unsung hero of the movies." (Other stills on page 8.)

Glen MacWilliams, A. S. C., is engaged in the cinematography of a William Fox production, "Ladies Must Dress," featuring Virginia Valli and Laurence Gray. Victor Heerman is directing.

* * * * *

Reports from the East indicate that Harold Lloyd has been very successful in shooting Coney Island exteriors for his latest comedy, as yet untitled. With Walter Lundin, A. S. C., as chief cinematographer and Robert Doran and Charles J. Davis, also A. S. C. members, in association, production has been speeded along. The Lloyd unit will shortly return to Hollywood.



Flash—M.-G.-M. dog star. Still by Homer Van Pelt.



Lon Chaney. Still by Wallace Chewning.



Lillian Gish. Still by Milton Browne.



Marian Davies. Still by Fred Morgan.

In Camerafornia . . .

What Members of the A. S. C. Are Doing

Production has started at the Columbia Studio on a Jack Holt feature, "The Tigress," on which Joseph Walker, A. S. C., is first cinematographer.

* * * * *

Word comes from the Universal lot that John Stumar, A. S. C., is to be chief cinematographer on the next Mel Brown production now in preparation.

* * * * *

John Fulton, A. S. C., is receiving congratulations from various A. S. C. members on the Universal lot for his recent individual work in trick cinematography at the studio's trick department.

* * * * *

Richard Dix will next he seen in "The Gay Descender," now in the course of filming at the Paramount Studio witb Edward Conjager, A. S. C., as chief cinematographer.

* * * * *

The Paramount comedy team, W. C. Fields and Chester Conklin, are completing "The Side-Show." H. Kinley Martin, A. S. C., is photographing the picture, and John Waters is directing.

* * * * *

"A Frencb Dressing" is now being prepared at the First National Studio, where Ernest Haller, A. S. C., is photographing this appetizing picture for Robert Kane Productions under tbe direction of Allan Dwan.

* * * * *

Production has started at the Universal Studios on a current Glen Tyron comedy as yet untitled. Arthur Todd, A. S. C., is in charge of the photography, assisted by Allen Jones, also an A. S. C. member, at the second camera. William Craft is directing.

* * * * *

"The Cohens and The Kellys" is now in production at Universal City. Under the direction of William Beaudine, this humorous film of Jewish-Irish life, is being photographed by Charlss Stumar of the A. S. C. The second camera is being held by Jacoh Kull, A. S. C. Included in the well known cast are Vera Gordon, Kate Price, Gertrude Astor, and George Sidney.

* * * * *

After having finished the cinematography on Buck Jones' latest western picture, "The Branded Sombrero," at the William Fox Studio, Reginald Lyons, of the A. S. C., has left for a six weeks' vacation in New York City. If Broadway doesn't lure him, Reggie will be back to dear old Hollywood in time to again start work with the Buck Jones unit

* * * * *

The past month has been a husy one for Ross Fisher, A. S. C. Completing the photography on an Emory Johnson production at Universal City, Fisher was immediately assigned to camera work on Reginald Denny's next feature comedy. With Emil Harris, A. S. C., at the second camera and Fred Newmeyer directing, Fisher has started the cinematography on the first sequences of the picture.

* * * * *

Reports indicate that the Universal Studio is carrying on a heavy production schedule. Among the many pictures now being photographed, and one which will cause widespread interest, is Victor Hugo's "The Man Who Laughs." Gilbert Warrenton, A. S. C., is filming this famous story in association with Richard Fryer, also a memher of the A. S. C. The direction of this special production is in the hands of Paul Leni. Heading the cast are Conrad Veidt and Mary Philhin; they are supported by George Seigmann and Brandon Hurst.

At the Universal Studio Virgil Miller, A. S. C., who has been photographing a Henry McRae production featuring Rex, the "king of wild horses," has just been taken off that unit and been assigned to photograph Wesley Ruggles' Jewel production featuring Laura La Plante and John Harron. Miller was transferred because of his expert handling of Panchromatic film, the Ruggles picture calling for the maximum effects to bs obtained from such a film. George Robinson, an A. S. C. member, replaces Miller on the McRae production.

* * * * *

As an incident of a studio "rush call," Joseph Brotherton, an A. S. C. memher, together with Elmer Dyer, A. S. C., and Robert Hall, Universal director, were recently given five minutes' notice to leave for the East to film horse race sequences at Belmont Park, called for in the next picture which Hill has been assigned to direct. Instant preparations were effected, the trip East made, the races photographed satisfactorily, and Brotherton, Dyer and Hill returned to the studio to continue their work on the production. It's all in a day's work!

* * * * *

It is interesting to note that as early as 1916 the Akeley camera was in demand at the Hollywood studios. Ray L. Ramsey, A. S. C. pioneer Akeley specialist, recalled recently that in the production of the William Fox picture, "The Queen of Sheba," made at that time, his Akeley played a major part in the filming of the different moving sbots. Among the current pictures Ramsey has done the Akeley work on "Haunted Island," "The Calgary Stampede," starring Hoot Gibson, "The Man In The Saddle," "Cheyenne Days," and "Tha Last Frontier."

* * * * *

King Gray, A. S. C., has just returned from Fort William, Ontario, one of Canada's heauty spots, where he had gone for exteriors as chief cinematographer on the Thunder Bay Films, Limited, production, "The Spirit Of The Wilderness." Lewis Chaudet, the director, accompanied Gray. Whila on location, Gray states, he was amazed at the interest which the small, amateur motion picture outfits have caused in Canada. Upon talking with the local photographic dealers, Gray learned that the demand for these outfits had become so insistent that the dealer had been forced to stock a complete line of amateur apparatus; and ever since has been kept busy supplying the small size raw stock film. All of which is very interesting, and is another indication of the broad scope which the amateur movie has ohtained.

* * * * *

During a recent location trip to Kernville for F. B. O.'s western production, "The Renegade," starring Bob Steele and Dorothy Kitchen, Charles P. Boyle, A. S. C., and chief cinematographer, wrote us that ideal weather permitted the use of Panchromatic stock to good advantage. Many heautiful clouds, blue sky, and the bright colored Pinto horses were recorded by Boyle's camera in their true color relation, thus heightening tha pictorial effect of the exterior shots. Boyle is now preparing to photograph a special Christie comedy, "Tillie's Punctured Romance," to he released by Paramount. Under the direction of Edward Sutherland, W. C. Fields, Chester Conklin, Louise Fazenda, Doris Hill, and Grant Withers will he seen in this new production. It will be remembered that this vehicle was made several years ago with Marie Dressler and Charlie Chaplin by Mack Sennett, and was the forerunner of the modern feature length comedies of today.

Amateur Cinematography

A Professional's Notes for Amateurs—XIII

By Joseph A. Dubray, A. S. C.

(Continued from October Cinematographer)

The discoveries and works of Fraunhofer, Kirchoff, Grimaldi, Fresnel and others on the composite nature of light have been summarily dealt with in the March issue of the "American Cinematographer."

Through their discoveries, the measurement of the length of the light waves for each color of the spectrum was rendered possible and Angstrom, following the lead of Fraunhofer, published in 1868 a map of the solar spectrum and measurements of the wave lengths for all the visible spectra between the Fraunhofer lines A and H, expressing them in TEN MILLIONTH OF A MILLIMITER, which chosen unit is called the Angstrom unit, or ten-meter.

Wave lengths are also expressed in thousandths of a millimiter, which measure is called a MICRON, or more often yet in millionths of a millimiter which unit of measure is called the MICROMICRON or MICROMILLIMITER, and expressed by the Greek letter *MU* repeated which will be represented in these articles by the symbol **mm**.

Thus, the wave length of the colour corresponding to the D line of the spectra may be indifferently expressed as follows:

Wave length—

5896.616	A. U. or Angstrom units, or Ten-meters.
0.5896616	Thousands of a millimiter, or MICRONS, or The Greek letter *MU* (**m**).
589.6616	Millionths of a millimiter, or Micromicrons, or Micromillimiters, or The Greek letters *MU MU* (**mm**).

The last unit is the most commonly used in photographic text books and works.

A non-luminous flame such as the flame of a spirit lamp or of a Bunsen burner, may be coloured by burning into it substances held at the end of a platinum wire.

The burning of any substance, that is to say its volatilizing, is facilitated by the use of one of its salts compounds. Experimentation has proven that the CHLORATES of substances easily absorb Oxygen and their combustion is thus activated; hotter and more brilliant flame is obtained which consequently aids the visual observation by the spectroscope.

When a substance is so dealt with in its gaseous state, it has the tendency of emitting definite rays, whose colour, i. e. wave length, depends entirely upon the nature of the substance itself and upon the temperatura to which it is submitted.

To each substance corresponds then a number of well defined lines, that is to say of well defined wavelengths.

The possibility of photographing the totality of the spectra, taking into account only the power of transmission of the glasses used in the making of lenses, and disregarding the sensitiveness of the emulsion to the different colours, are limited to certain regions of the spectra because of the property of glass to absorb and consequently extinguish the wave lengths shorter than approximately 330 **m m**.

This absorption varies for different kinds of glass but this limitation can be considered as sufficiently accurate for photographic purposes, and therefore limits our investigation.

As has been previously stated, the length of the wave length and its rapidity are related to each other and consequently influence the power of refraction of the medium through which they are made to pass.

It is obvious that this difference of refraction is cause of the formation of a different INDEX OF REFRACTION for each wave length, so that if a pencil of white light is made of glass, each one of the coloured rays that compose the white light pencil will REFRACT ACCORDING TO ITS PARTICULAR INDEX and follow through the prism its own particular path.

The angle that a given colored ray makes with another of the colored rays after refraction, is called the DISPERSION for those two rays and as a transparent medium has a different "*n*" value (index of refraction) for each coloured ray, the DISPERSION of two coloured rays is given by the difference between the "*n*" values corresponding to them.

Thus $N_c - N_f$ represents the dispersion of the red rays corresponding to the Fraunhofer line C and the Blue-Violet rays of the F line.

This particular dispersion is called the MEAN DISPERSION and is usually represented by the capital Greek letter DELTA (and in these articles by the letter **D.**)

Other dispersion such as the difference of indices between A and D, or D and F, or F and G are called PARTIAL DISPERSIONS and are designated by the small Greek letter delta and in these articles by the letter **d** and suffixed respectively by the ciphers, 1, 2 and 3.

These measurements together with the "*n*" value of the glass give rise to four other quantities, viz:

THE DISPERSIVE POWER OF GLASS $= \frac{N_d - 1}{D}$

which is designated by the small Greek letter nu and in these articles by the letter **n**.

THE RELATIVE PARTIAL DISPERSIONS

$$\frac{d_1}{D} \qquad \frac{d_2}{D} \qquad \frac{d_3}{D}$$

respectively designated by the small Greek letters alpha, beta and gamma and in these articles by the letters **a, b, g.**

Now, as a lens can be considered as composed of a great number of prisms, it is obvious that a ray of white light, say parallel to the axis and incident upon the lens, will be decomposed into the different rays of the spectra and each one of them, will cross the axis after refraction at a different point. In other words a FOCAL POINT will be found for each of the coloured rays that compose the white pencil of light.

As each one of the coloured rays has its own focal point, it is evident that a luminous object point of white light will have after refraction, not a SINGLE CONJUGATE POINT in the image space, but AS MANY CONJUGATES AS THERE ARE COLORED RAYS in its spectra, and therefore the image of such an object cannot be FOCUSED on a screen in its entirety, but only each separate coloured ray can be brought to a focus at one time.

If the object, instead of being of white color is a multicoloured one, each one of its colours will form its image in a different image-plane and the whole object cannot be focused on any single plane.

The Orthoscopy of the image is thus impaired by the inability of a lens to bring to a single focus on a single plane the image of a non monochromatic object and this inability is called CHROMATIC ABERRATION.

(Continued on Page 16)

The A. S. C. and the A. F. L.

In a statement just issued to the press, President Daniel B. Clark, of the American Society of Cinematog, rsphers, said:

"Mucb has heen said, writtsn and conjectured in regard to the attitude of the A. S. C. toward the Union idea as expressed in membership of the American Federation of Labor, but until now no statement in behalf of the A. S. C. has been authorized.

"That there are elements which would welcome the absorption of the A. S. C. by tbe Union is obvious, hut neither at present nor at any other time has the A. S. C. in its official councils contemplated even as a remote contingency the surrendering of its independence and self-government hy becoming one of the local unions of the A. F. L.

"It is true that for the information of its memhers representatives of various organized groups have appeared before the Board of Governors of the A. S. C. to explain their plans of operation hut this was in no sense a gesture toward affiliation with the A. F. L.

"The A. S. C. desires it clearly understood that it has no quarrel with the union nor any other labor group. Its conviction is that a group of workers such as tbe cinematographers of the motion picture industry, men who are hoth artists and operatives, hut first of all artists, will hest be able to serve both the industry which employs them and their own welfare by maintaining their independenee as they have done througb the years and have prospered in the doing of it.

"The ideals of the A. S. C. are Loyalty, Progress, and Art. Co-operation might justly be added, for the cinematographer has demonstrated througb the years that tha spirit of eo-operation is one of his outstanding qualities.

"The A. S. C. has naver eoerced anyone nor bas it ever attempted to dictate to individual or to organization; on the contrary it bas "paddled its own canoe" and its memhers have been too busy doing their duty to have time for politics or the contemplation of such practices.

"The result has been that tha A. S. C. is respected by all departments of tbe industry and is regarded as one of its most loyal and constructive elements and so long as present eonditions persist in the industry the Society hears no call to wander afield after strange gods.

"The eastern organization of eameramen, we are informed, has reeently attempted to give tbe impression that tha A. S. C. is principally social in character, an estimate amusing and ridiculous to anyone wbo knows the true character of the A. S. C. to he not only tbe strongest organization of artists in the picture industry, bnt also the leading technical group. The soeial faature is not neglacted, however, as the records of tha Soeiaty sbow.

"Between tbe A. S. C. and tha local New York City union of camera operators there is no affiliation of any kind. Our interests are anything but identical and our plans, purposes and policies, so far as I understand them, are quite divergent."

CLUBBING RATES

	U.S.	Canada	For'n
"American Cinematographer"	$3.00	$3.50	$4.00
In club with:			
"Camera Craft"	3.90	4.65	5.40
"Photo-Era"	4.15	5.00	5.90
"Tha Camera"	3.90	4.40	5.40

Dolling Up The Film

Color harmonies, each with a distinctive meaning have been adopted by the Du Pont Pathe Film Manufacturing Corporation for wrapping their 16 millimeter film. The material used is transparent Cellophone and the meaning of the colors is as follows:

Green—16 mm safety negative—negativa when exposed is returnable to the manufacturer to be developed. A positive print is then made from the negative and both negative and positive returned to tbe user.

Red—16 mm safety reversal negative—after this film is exposed it is to be returned to the manufacturer to be developad by their raversal process and returned to the user.

Lavender—16 mm safety negative sold to users without processing charges included—it is for users who prefer to do their own developing.

Blue—16 mm positive film for sale to photographic dealers.

Green—Portrait film—sixe 8x10—each carton holding one dozen films.

The 16 mm motion picture film is put up in 100 foot rolls. A plain printed cardboard carton is used in each case and the package wrapped by hand.

Their plan is, the company states, to provide, by this wrapping a striking, distinctive package which could he quiekly recognized on the dealer's shelves. The appearanee of the package is also an inducement to the dealer to use it for window display. The company also believes that the slight additional expense ineurred hy the use of this wrap is justified by the satisfactory reaction of their trade.

SCHEIBE'S
Photo-Filter Specialties
(SINCE 1916)
Endorsed by AMERICAN SOCIETY OF CINEMATOGRAPHERS
Produce novel screen effects
Ask your dealer, or write to
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Questions and Answers

QUESTION—When was color photography invented?

ANSWER—It would take a volume to answer your question. Dr. G. Lindsey Johnson in his book on "Photography in Colors," outlines its evolution and dates it back to 1810.

QUESTION—From whence comes the name, "CAMERA?"

ANSWER—It dates back to the year 1553 when the Italian Gienbattiste della Porta discovered the "CAMERA OSCURA" the Italian for "Dark Chamber." In the course of time, the term has been shortened to "CAMERA."

QUESTION—Can Aluminum be blackened by any other means than varnishing it?

ANSWER—Yes:—Thoroughly clean the Aluminum and immerse it in a solution of

Ferrous Sulphate, 1 Oz.
White Arsenic, 1 Oz.
Hydrochloric Acid, 12 Oz.
Dissolve and add
Water, 12 Oz.
Dry with fine saw-dust and lecquer.

QUESTION—What is the meaning of actinic rays?

ANSWER—Actinic or chemical rays are those rays of light that produce a chemical change in an emulsion.

QUESTION—Why can I not obtain clear pictures when photographing against the sun?

ANSWER—I infer that your pictures show a general or partial fog. This is due to flares produced by extraneous light striking the lens. A lens hood is essential when photographing against a brilliant source of light and when a maximum of contrast is desired. The following formula will give you the dimensions required for a circular hood.

$$\frac{4}{5} \times \frac{\text{length of hood}}{\text{focal length of lens}} + \text{aperture of lens}$$

The aperture of the lens is found by dividing its focal length by the F number of the lens.

The measurement obtained will serve as guide for ascertaining the dimension of the rectangular opening of the hood, which is preferably used.

QUESTION—How much shall I increase the exposure when using a graduated filter?

ANSWER—As a graduated filter is used only to reduce the excess of light emenated by extremely brilliant sections of a subject, such as a clear sky, no increase of exposure is necessary when using this appliance.

QUESTION—I am going to take my amateur camera on a cruise through the South American tropics. What are your suggestions for the handling of the film over there?

ANSWER—Suggest that you write to the Eastman Kodak Co. in Rochester for their booklet, "HANDLING OF MOTION PICTURE FILM AT HIGH TEMPERATURE," by Mr. J. I. Crabtree.

If you are around Hollywood, drop in our office and we will gladly give you all information that would be too lengthy to publish in this department.

QUESTION—Who is the cameraman that photographs the "Our Gang" pictures? Is Farina a girl or a boy?

ANSWER—(a) Mr. Art Lloyd, a member of the American Society of Cinematographers." (b) A boy.

QUESTION—How can I become a Motion Picture cameraman?

ANSWER—Start at the bottom as apprentice in a laboratory, then work yourself up as assistant Cameraman, Second cameraman and finally earn your classification as first. Study photography; develop your artistic instincts; be prepared to unselfishly give your heart and soul to the profession; cultivate a clean mind and a healthy body—Good luck to you.

QUESTION—How is the third dimension effect obtained in motion pictures which are viewed through goggles?

ANSWER—Stereoscope effects are obtained by optically superposing two pictures taken with a difference of the angle of view corresponding to the distance between the eyes. In motion pictures, the two pictures are projected on the screen simultaneously one toned RED, the other one BLUE. The blue glass of the goggles permits one eye to see only the blue picture, while the red glass permits the other eye to see only the red picture. If the goggles are used so each eye can see only the picture pertaining to its respective angle, the stereoscopic effect is obtained.

QUESTION—How can I figure the distance at which it is necessary to place a telephoto lens from the film to obtain a sharp picture?

ANSWER—Multiply the focal length of the negative element of the telephoto lens by the MAGNIFICATION less 1. The magnification is given by the number of times the picture obtained by the telephoto lens is greater than the one obtained by its positive element alone.

QUESTION—How has the numbering of the diaphragms of a lens been established?

ANSWER—The International Congress of Photography held in Paris (France) in 1900 has decreed that diaphragm shall be characterized by a fraction of the form F-n, where n is the number obtained by dividing the absolute focal length of the lens by the equivalent diameter of the diaphragm.

The diameters of the standard series of diaphrams shall be such that their progression corresponds for each of its terms to an exposure double of the preceeding one.

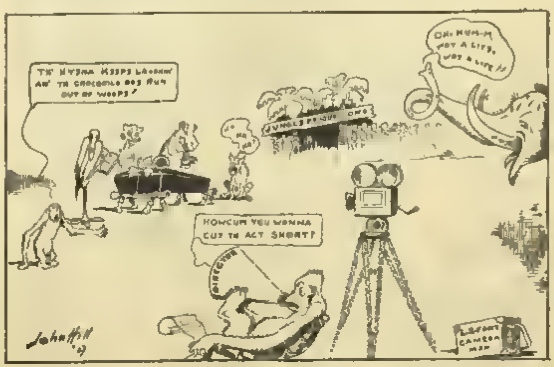
F-1; F-1.4; F-2; F-2.8; F-4; F-5.6; F-8; F-11.3; F-16; F-23; F-32; F-45.

Each one of these stops has an AREA one-half the AREA of the preceeding one.

"The Cheer Leader," a Gotham Production, is being photographed by Edward Gheller, A. S. C., at the Fine Arts Studio.

* * * * *

Colleen Moore has started another picture for First National, which George Folsey, A. S. C., is photographing. Marshall Neilan is directing Miss Moore in this film which is to be titled "Ain't She Sweet?"



Why BELL & HOWELL CAMERAS

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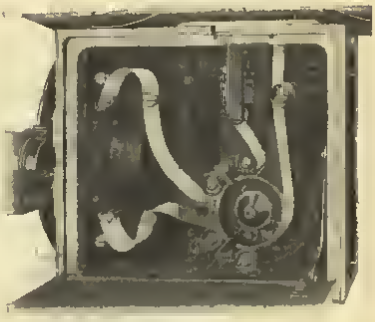
The thoroughly professional portable camera used for stunt shots, news reels and locations. Studios using from 6 to 50 Eyemos include Famous Players-Lasky, Warner Bros., Metro-Goldwyn-Mayer, Universal, Christie, Sennett, Chaplin and others. Used for news reels by International, Pathe, Fox, Kinograms, Universal, Paramount, Associated Screen News and others. Write for descriptive circular.

Bell & Howell Cameras are found on practically all the leading movie lots of the world—now—as they have been for twenty years.

Such a record can be based only on SERVICE. And that means superior photography, superior designing, ruggedness, precision and dependability under all conditions of professional picture production.

In the B. & H. Pioneer Standard Camera and equipment are found such features as ultra speed movement, multiple lens mounts and lenses, automatic dissolve mechanism, aperture vignettes, and the cinemotor that eliminates hand cranking and paints artistry into the picture. Every need of the industry is anticipated. "Hold fast that which is good" has been literally and actually accepted by the leading producers of the world. They use Bell & Howell Cameras.

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Ultra Speed Movement showing lacing of film. This style used for making exposures up to 128 per second.

THE CINEMOTOR

indicated by the arrow near the largest of camera above, is a beautiful piece of equipment. By simply manipulating a control knob speeds ranging from 2 to 20 exposures per second are at instant command. Hand-cranking, vibration and the variability of human operation are entirely eliminated. Allows operating camera by remote control. Write for particulars.

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Badaracco, Jake—
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Boyce, St. Elmo—Sennett.
Bridenbecker, Milton—Universal.
Brown—Jas. S., Jr.—F. B. D.
Benoit, Georges—
Barnes, George S—Goldwyn.
Brotherton, Joseph—
Broening, H. Lyman—
Broening, H. Lyman—United Artists.
Beckway, Wm. J.—

Carter, Claude C.—Australia.
Cline, Roht. E.—Scholck Studio.
Cline, Wilfried—Univarsal.
Crocker, Geo. D.—
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Cronjager, Henry—
Clark, Daniel B.—Tom Mix, Fox.
Coopar, Harry H.—
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Clarke, Chas. G.—Fox.
Cawhng, H. T.—Eastman Kodak Co., Rochester, N. Y.
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Davis, Chas. J.—Warner-Vitaphone, N. Y.
Draper, Lauren—Sierra Pictures.
Daniels, Wm. H.—M.-G.-M.
Davey, Allen M.—
Davis, Harry—Fine Arts.
De Vinna, Clyde—M.-G.-M.
Doran, Robt. V.—
Dored, John—Paramount News, Riga Latvia.
Dubray, Jos. A.—
Du Far, E. B.—Warners.
Du Pant, Max—
Dean, Faxan M.—

Eagler, Paul E.—M.-D.-M.
Eldredge, F. R.—Universal.
Eelick, Le Roy—F. B. D.
Evans, Perry—
Edeson, Arthur—First National.

Fabian, Max—M.-G.-M.
Farbes, Harry W.—Stern Film Dorperation.
Folsey, George Jr.
Fryer, Richard—
Fildew, William—
Fischbeck, H. A.—Lasky.
Fieher, Rosa G.—First National.

Gerrard, Henry William—Lasky.
Gheiler, Edward—
Gersted, Merritt B.—M.-G.-M.
Gobbett, David William—
Gosdan, Alfred G.—
DeGrasse, Robert—F. B. O.
Dilks, Alfred—Lasky.
Gray, King D.—
Guiesart, Rene—Paris, France.
Good, Frank B.—Fox Studio.
Griffin, Walter L.—David Hartford Prodactious.
Gaudio, Daetano—Douglas Fairbanks-United Artists.

Hallenberger, Harry—Lasky.
Harris, Emil—Universal.
Heisler, Frank B.—
Hilburn, Percy—M.-G.-M.
Hunt, Roy—Lasky.
Hyer, William C.—Educational.
Haller, Ernest—Robt. Kane Productions, Hollywood.
Heimerl, Alole—
Janes, Allen C.—Universal.
Jana, Roy—Fine Arts Studio.
Jackman, Floyd—
Jackman, Fred W.—Directing Fred W. Jackman Prod.

Jackson, H. A.—Comune Griffin, U. A.
Jenninga, J. D.—Buster Keaton.
Kershner, Glen—Da Mille.
Keseon, Dave—United Artists.
Keseon, Frank A.—
Kirkpatrick, H. J.—Universal.
Klaffki, Roy H.—
Kornmann, Anthony—Universal.
Kull, Jacab—Universal.
Koenekamp, H. F.—
Kurrle, Roht. E.—Firet National.

Linden, Eddie—Universal.
Lloyd, Art—Hal Roach.
Longenecker, Bert—
Lyons, Chester.
Lyons, Edgar—Christie.
Lyons, Reginald—Fox.
Lundin, Walter—Harold Llayd, Matropalitan.
Lockwood, J. R.—
Lyons, Chester—Fox.

Marley, J. Peverel—Da Mille.
Mackenzie, Jack—Douglas McLaan, Lasky.
Marsh, Oliver—M.-G.-M.
Marshall, Wm. C.—Lasky.
Martin, H. Kinley, Lasky.
Mescall, John J.—M.-G.-M.
Miller, Arthur—De Mille.
Miller, Ernest W.—Chadwick Studio.
Miller, Virgil E.—Universal.
Mohr, Hal—Warners.
McClung, Hugh C.—Douglas Fairbanks, U. A.
McCord, T. D.—First National.
McGill, Barney.
MacWilliame, Glen—Fox.
Meehan, Geo.—Fox.
Morgan, Ira H.—M.-G.-M.
Mueurees, N.—F. B. D.
Milner, Victor—Lasky.
Murray, James V.—Lasky.
McManigal, E. L.—
Neumann, Harry C.—Universal.
Nortan, Stephen S.—
Dewald, H. M.—
G'Connell, L. Wm.—Fox.
Fawers, Len—Hal Roach.
Perry, Paul P.—
Perry, Harry—United Artists.
Palmer, Ernest—Fox.
Polito, Sol—Firat National.
Reevee, Arthur—
Raynolds, Ben F.—
Rles, Irvlug G.—M.-G.-M.
Rohinsan, Geo. H.—Universal.
Roseon, Hal—
Roos, Lan H.—Sydney, Australia.
Rose, Jackson, J.—Universal.
Roshar, Chas.—Mary Pickford-U. A.
Ries, Park J.—
Scheurich, Victor—
Schoenbaum, Chas.—Lasky.
Scholtz, Abe—
Schlockow, Paul—M.-G.-M.
Shamroy, Lean—Fine Arts Studio.
Smith, Ernest F.—
Smith, Harold G.—
Smith, Leonard—Educational.
Stengler, Mack—F. B. D.
Stevens, Geo.—Hal Roach.
Btavans, Jack—Richard Talmadge, Universal.
Btrues, Karl—United Artists-D. W. Griffith.
Stumar, John—Universal.
Btumar, Chas.—Universal.
Sharp, Henry—M.-G.-M.
Smith, W. S., Jr.—
Schnaiderman, Geo.—Fox.
Scott, Homer A.
Seits, John F.—M.-G.-M.
Snyder, Edward J.—Fathe-Fine Arts.
Thompson, W. C.



Few pictures on earth are lovelier than those formed of desert landscape, blue sky and fluffy clouds. This study by Mr. Elmer Fryer, A. S. C., on the Arizona desert, at House Rock Valley, is a work of art.

The lure of the South Seas is in this sunset on the Pacific



caught by Mr. Fryer at Mazatlan, Old Mexico.

"Hollywood in 1952"

By JOHN CAMPHOUSE
President of the Bank of Hollywood

"'Where there is no vision the people perish!'"

"With this statement before us it would seem that the banker might have at least grounds upon which to engage in prophecy, yet cold facts, cold cash and actual conditions appear to be the accepted idea as to the province of a banker's mentality.

"To forecast the future of Hollywood for what Hollywood will be in twenty-five years is a task for the clairvoyant; and yet, as conditions may be forecasted by economic authorities, without them appearing to be presumptuous, may we not project our imagination into the future, taking as a basis of calculation the progress of the past quarter century.

"By no enormous stretch of the imagination it may be stated that Los Angeles is destined to be the largest city in the Western Hemisphere. To "go west" has been the urge of mankind and they reach that ultimate on the Pacific Coast. Southern California, in particular, is reaping the benefit of this migration, and especially Los Angeles.

"Hollywood, with its charming surroundings, its equable climate, its high standard of citizenship, high standard of living, its community spirit and its artistic achievements must attract still further to itself those who seek after these fine things just as naturally as the law of gravitation draws all objects toward the center of the earth.

"With the immense potentialities of the San Fernando Valley as to habitation and production and with that large, rich country back of the Valley itself to draw from, **Hollywood naturally becomes the center of the Greater Los Angeles!**

"Already our roads from the north cannot handle our traffic; already our curbstones cannot accommodate the parking of automobiles; our theaters now are turning people away; our hotels now are filled with guests, and in only a few years more Hollywood will be the most densely populated area in Los Angeles—a great apartment, theatrical, hotel and shopping section bringing its attendant economic problems and benefits.

"Greater buildings—office, amusement, hotel, public, industrial, professional and fraternal, will be built in increasing numbers. Immense garages to solve traffic parking problems will be needed before they can be constructed, aeroplane landing roofs may soon be a fact to take care of the coming means of transportation and a great civic auditorium to care for automobile shows, grand opera, conventions, expositions, trade shows, etc., must be provided very soon.

"The accomplishment of these matters is no easy task and will require not only large finances and community co-operation, but enthusiasm without which no ideal or enterprise can be brought to fruition.

"It requires no great prescience to see these things coming for they are already on the way, but the details will be impressive.

"Visualize if you can a Cahuenga Pass nearly a quarter of a mile wide; a city larger than San Francisco in the San Fernando Valley; an aviation field on top of the hills; tunnels through the hills to handle auto traffic and subways to the beach cities, to the Valley and to downtown Los Angeles.

"Fancy if you can an uptown New York City from Vermont to Gardner and from Beverly Boulevard to the hills—all business; our mountains covered with homes on both sides, with impressive public art works at strategic points—something in which we are poverty stricken at the present time.

"Look again and see here fifty more theaters; a great Aviation Union Station, where all transcontinental passenger, freight and mail air lines will center; a wonderful art palace housing the exhibits of Hollywood artists; sunshine factories turning out half a billion dollars worth of manufactures entirely aside from the product of the motion picture studio which will have evolved into something as much more wonderful than the present motion picture as the latter is more wonderful than the stereopticon.

"More than ten years ago the press agent of the old Balboa Studio at Long Beach had a dream about a machine with which three dimensional motion pictures in natural colors were to be disseminated with musical accompaniment by radio to thousands of motion picture screens in theaters and in homes, colleges, churches, hospitals, prisons and other institutions. Who shall say that this will not be a fact long before 25 years?

"At that distant day we find Hollywood and Los Angeles made over completely to conform to the exigencies of automobile traffic. Our main arteries will be wider than we have ever dreamed of and jogs, detours and blind roads will be entirely eliminated.

"Electricity will be in universal use, cheap and more efficient because of improved utensils; also the work of the world will be greatly speeded up because of faster transportation and evolutionary advances in the development of machinery, and the outgrowth of this should be greater opportunity to play and recreate.

"Twenty-five years from now the number of golf courses will be increased many fold and I predict that long before that time there will be golf courses for children.

"All these things will come about not because somebody dreams of them, but through the development and expansion of the hinterland of Hollywood and Los Angeles, as well as the influx of wealth through the influx of population, as the result of our intensive advertising campaigns to attract tourists and homeseekers.

"By the development of our hinterland I have in mind the building of the proposed dam on the Colorado and its attendant blessings; the opening and development of the San Juan Basin of Colorado; the development of the Western Coast of Mexico, particularly of Sinaloa and Sonora; increased trade with the Orient, Hawaii, Alaska, South America, Canada and our own eastern seaboard, making our port of San Pedro easily the largest in the world.

"Hollywood is not Los Angeles; neither is Los Angeles Hollywood, but our interests are identical, and we both will share the same glorious destiny. However there is a decided and, I believe, an enduring community spirit in Hollywood—a spirit that has already expressed itself in many ways, but particularly in the loyalty of our business men and citizens to Hollywood and to Hollywood institutions, and in the creation of such outstanding things as the Bowl, the Pilgrimage Play and the establishment and development of the cinema to its present exalted estate. To this development I see no limit and our attitude toward the pictures should be, not 'Look how far they have to go,' but 'Look how far they have come in so brief a space.'

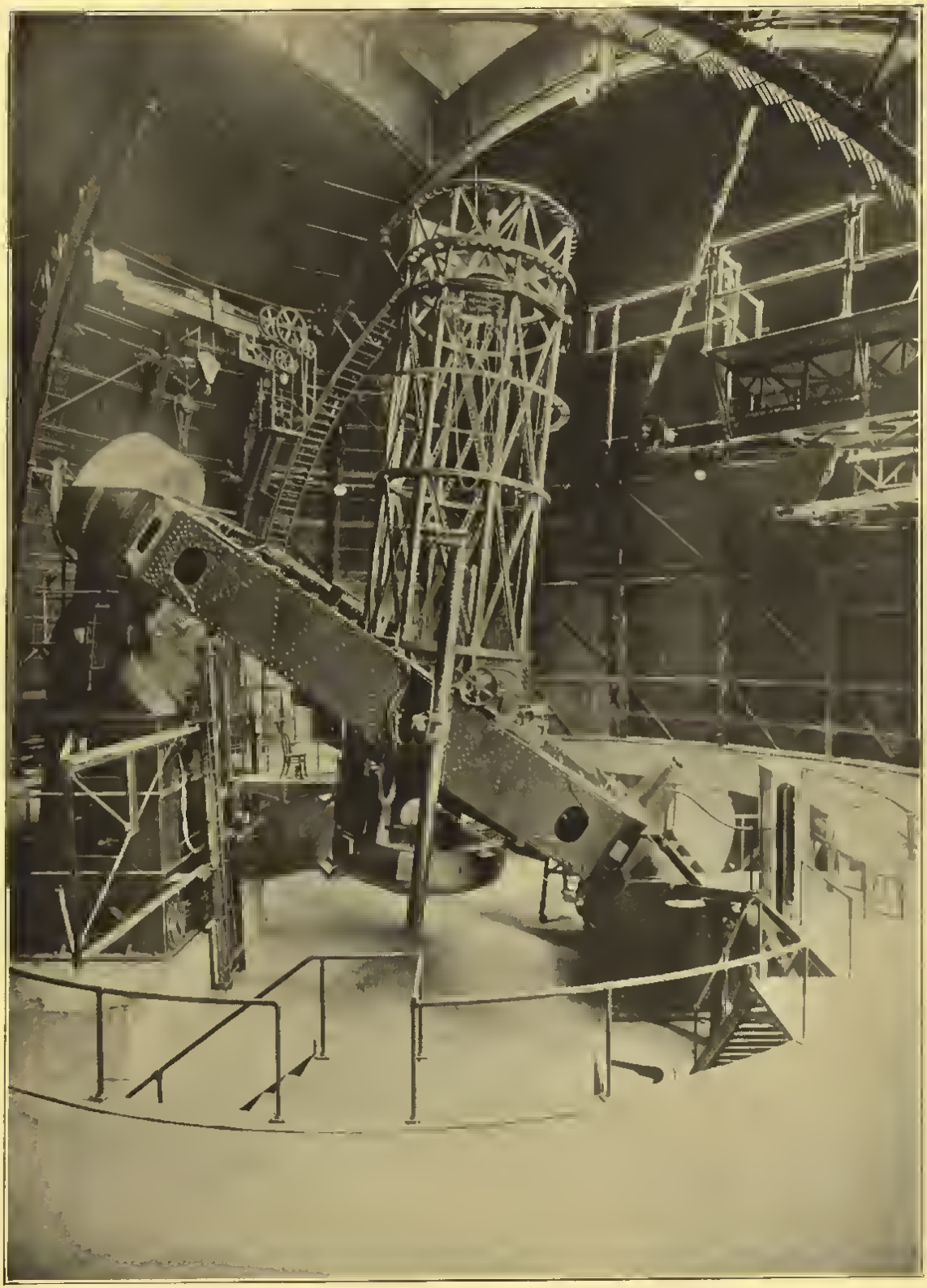
"Before this next quarter century has gone by we may see ships at the docks of Los Angeles and Greater Los Angeles a mighty metropolis, reaching from Newball to Santa Ana; from Sierra Madre to Topango Canyon, and from Mount Lowe to the sea, with the Palos Verdes uplift a great city in itself.

"There are, in all truth, two Hollywoods; the beautiful city of homes and business establishments so dear and so familiar to us all, and then there is the Universal Hollywood, sometimes called the Capital of the Film World, that intangible magic City of Enchantment, whose dominion extends to the uttermost confines of our terrestial globe, whose ambassadors, in the form of animated pictures, are constantly going forth into all the world, bringing joy and enlightment and peace to the

(Concluded on Page 24)



Here our artist, Mr. John Hill, attempts to visualize the Hollywood of twenty-five years hence as forecast by Mr. John Camphouse in his interview on the opposite page. It is interesting to note that the hat has entirely disappeared from the heads of the milling thousands on Hollywood's streets; that the trees have come back, and that motor vehicles are no longer parked at our curbs. The tall tower building in the right foreground is symbolic of Hollywood, as the Cinema Center, enlightening the world.



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A. S. C. TO DATE

24, 1927

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NEWS CINEMATOGRAPHERS

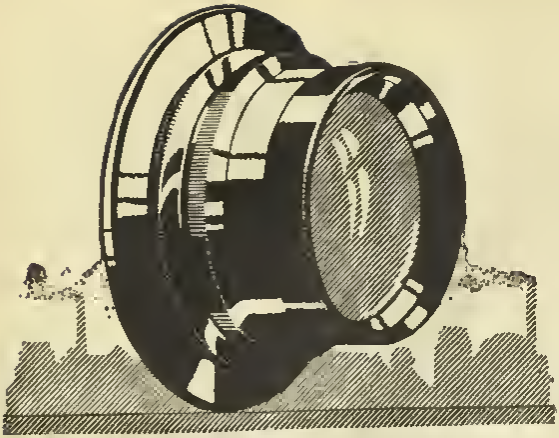
Grimes, William H.—M.-G.-M.—News
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Amateur Cinematography

(Continued from Page 10)

During his experimentation, Newton was lead to think that REFRACTION and DISPERSION where proportional, that is to say, their ratio he supposed to hs equal for any refraction medium and consequently he concluded that the correction of Chromatic Aberration in lenses was an impossibility, because the attempt of bringing the different coloured rays to one focus—that is to say the attempt of recomposing the spectra into white light, would have destroyed refraction and therefore rendered impossible the formation of images.

Fortunately, it was later discovered that Refraction and dispersion were NOT proportional in all transparent or refracting surfaces and Dollond, an English optician, proved that hy combining two lenses of different material, a virtually ACHROMATIC lens could he obtained.

ACHROMATIC is the name applied to lenses corrected for CHROMATIC ABERRATION.

Let us revert to prisms for the explanation of this phenomenon and suppose that the prism A B C, is huilt hy the union of two prisms of different material as indicated in Fig. 29.

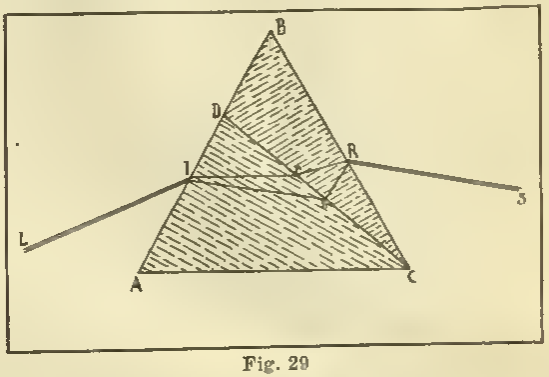


Fig. 29

The prism A D C mads of CROWN and the prism D B C, made of FLINT glass and let the incident pencil L I he of white light and strike the crown prism at I.

Such pencil of light at this point suffers refraction as well as dispersion, so the different coloured rays into which the pencil is decomposed travel through the prism spreading apart and following the paths I r and I v, which include an area I r v, filled with all the coloured rays from red to violet according to the decomposition of ths white pencil of light L I.

All these rays reach the surface D C of the crown prism between r and v and are there incident to the D C surface of the flint prism and consequently each one of them suffer refraction.

Now, flint glass is more dispersive than crown and as it is a physical law that the dispersion produced hy a prism is lessened, the smaller is its refracting angle, it results that by lessening the refracting angle of the flint prism D C B as compared with the refracting angle A D C of the crown prism, a certain amplitnde for these

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angles will he found where the dispersive power of the prisms is equalized.

Considering now the position of the two prisms, we notice that the flint prism is in a reverse position as compared with the crown one. The two dispersions take place then in OPPOSITE DIRECTIONS and the total dispersion is then NEUTRALIZED. The emerging pencil R S will then be found hy the recomposition of ALL the coloured rays and therefore he white as was the incident pencil L I.

If the dispersions and refractions were proportional in their ratio, the flint prism would have such a power of refraction, corresponding to its dispersion, that the emergent pencil R. S. would be parallel to the incident one L I and the power of the combination would only be to recomopse the spectra into white light, and yould annihilate the refraction.

This was Newton's theory hut as previously said, it was discovered that the ratios of refraction and dispersion vary with the nature of the refraction medium and it was found possible to combine two prisms as in Fig. 29 which would neutralize depression without completely destroying refraction.

Let us now apply this principle to lenses.

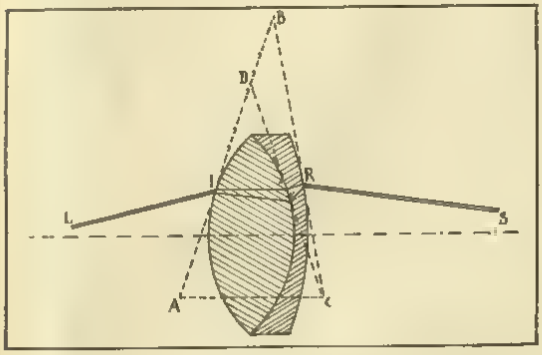


Fig. 30

From Fig. 30, it is easily seen that the curvatures of two lenses one of crown and one of Flint glass, can be so calculated as to render the combination ACHROMATIC and it results ohviously that if two lenses have to he combined so they shall neutralize their respective dispersions, these lenses must be

First.—Of OPPOSITE KIND—one positive and one negative.

Second:—Their refracting powers must he so selected that they both produce an equal amount of dispersion.

(To be Continued Next Month)

"The Tempest," John Barrymore's second picture for United Artists release, will shortly go into production. Charles Rosher, A. S. C., has been assigned as chief cinematographer.

* * * * *

At the Warner Brothers Studio production has started on "If I Were Single" with Ed Du Par, A. S. C., in charge of the photography. Conrad Nagel and May McAvoy are featured.

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That is why many cinematographers are using a large proportion of Cooper Hewitts with their other lamps. Cooper Hewitts give a cold light. And, although they give out no red rays, they can be used extensively without changing the tonal values of the reds in other forms of lighting.



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The Use of Globe Lamps

By PETER MOLE

(Continued from Page 6)

about 40% of the cost had the picture bsen taken with arc equipment.

From the results obtained in "The Rose of Monterey" the First National officials were encouraged to such extent they purchased twenty-four additional 18-inch Sun Spots and other flood light equipment to fully equip one unit which is now in production making the picture "Man Crazy," photographed by J. Van Trees, A. S. C.

The second company to go on location equipped entirely with incandescent lights was the Sam Rorke unit of the First National starring Will Rogers in "The Texas Steer." During September, this company will be shooting locations around the National Capitol at Washington, D. C.

Tests were also made at the Universal Picture Corporation under Roy Hunter and Frank Graves. The results obtained from the incandescent were so satisfactory they now have on order enough equipment consisting of the 18-inch MR Sunspots, broads and flood lights to completely equip one company for this type of lighting.

After several weeks of testing and experimenting on the part of individual cameramen, assisted by R. E. Nauman, Chief Engineer of the Famous Players Lasky Studio during the latter part of August, a meeting of the cameramen was called at which the writer was present, and discussed the different incandescent lighting units. It was unanimously decided by them that the results obtained in their tests justified them purchasing considerable incandescent equipment in order to carry on further tests and to carry on certain of their regular production work with this type of lighting.

The studio officials, cinematographers and electrical supervisors are to be commended for the manner in which they have grasped this new form of lighting. They have all manifested great interest and in every case the writer has received the grsatest amount of cooperation possible when running tests or making demonstrations. Indebtedness to The Central Electric Company throngh F. E. James and E. P. Markee of their Los Angeles office, is hereby acknowledged because of their assistance and cooperation in this naw branch of studio lighting.

It must be remembered that while the incandescent tungsten lamps have been used for some time for "close-up work" and "stills" their use in the studio for general motion picture production work has been limited to only about nine months. Reviewing this article and analyzing the work being done by each studio one can easily see that a great future is ahead for the incandescent equipment. It may take considerable time for the different departments, such as the electrical-photographic and laboratory, to adapt themselves to the new conditions, but this is gradually being done, and I do believe greater strides will be made in incandescent tungsten lighting in the near future.

A picture which promises to be a most interesting sea tale has rscently been completed for Tiffany release. With the title of "The Ghost Ship," this production was photographed by Glen R. Kershner, A. S. C., and directed by Ben Cohn for Bud Barsky Productions. In the cast are Dorothy Sebastian, Ray Hallor, Montague Love, Tom Santschi, Alice Lake, and Sojin. The nautical scenes for the picture were shot off the coast near Ocaan Side, California, on a five mast schooner. Panchromatic film was used throughout the production.

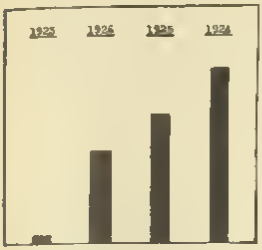
* * * * *

Donald Keyss, A. S. C., has just purchased one of the Mitchell Camera Company's super-speed equipments with a lens range of 35 m. m. to twelve inches. This camera model is one of the finest ever produced by this enterprising organization. Mr. Keyes, with this outfit, is equipped to do any kind of work possible to a motion camara.

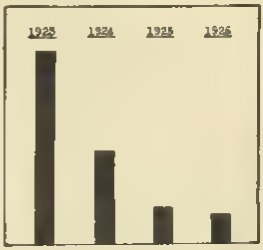
First Aid Facts

FROM THE SOUTHERN CALIFORNIA TELEPHONE CO.

First Aid Training
Percent of Employees Trained



Disability Accidents
Number of Employees Having Disability Accidents



The diagrams above show the relationship of disability accidents and first aid training. They also prove that when the percentage for first aid training goes up, the number of disability accidents goes down.

It will be noted that in 1923 we had very few employees trained in first aid work and our accident rate was relatively high.

During 1924 the first aid training and accident prevention campaign was really started. At the end of the year there were 48% of the male plant employees trained in first aid work; also accidents dropped to a total reduction over the previous year of 53%.

By the end of 1925 we were 66% trained in first aid work and disability accidents dropped 60% lower for the year than the previous record of the year before; also they were 82% lower than the 1923 performance.

By the end of 1926 we had a total of 88.8% of the male plant employees trained in first aid work; also our accidents dropped 32% over the previous year; also they were 87% lower than our 1923 performance.

Other Interesting Facts

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These figures and facts which coma from actual experience of one of the greatest public utility organizations in the United States, will be of particular interest to members of the A. S. C. who, under the leadership of President Daniel B. Clark, are making a determined effort to introduca first aid into the motion picture industry generally.

New Sales Manager

The Bell & Howell Company, manufacturers of professional and amateur (Filmo) moving picture equipment, recently appointed Mr. H. O. Bodine to take charge of their New York office and serve as Eastern Sales Manager. This position was formerly held by F. A. Cotton who not long ago met with an accident which proved fatal.

Mr. Bodine needs no introduction to the photographic industry, having been actively and prominently connected with this fascinating profession throughout his entire business experience of 25 years. Dealers and users of Filmo equipment will find Mr. Bodine thoroughly conversant with every factor of the game.

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Gag Photography

By P. K. THOMAJAN

Gag comedies are the fad of the hour. They rapresentthe jazz note in motion pictures—a hurly-burly hodge-podge of action and horseplay. Gags speed up a picture, and laughs make a long one seem short and a dull one semi-interesting. Gags are the knots In the thread of a story, and a comedy making less than 15 to 20 knots per film hour Is too slow to satisfy in thia high tension age. The public is hungry to have its sweet tooth pleased at the expense of its wisdom teeth. Also, the time for heavy pictures has passed with the Venus de Mflo standard of beauty. Today's passion is for the light weight.

The acute demand for bigger and better comedies hronght in the gag man, laugh specialists and jack-of-all-tricks. Gag men are an odd breed of individuals, who have heen drafted from vaudeville and a variety of other professions. They are supposed to possess a super-keen sense of humor and a double-jointed funnybone. The crack gag man, like the billiard expert, can convert any "set" situation into a trick play. Their scarcity has attractad to Hollywood a host of pseudo-hnmorists, or carpet-gaggers.

The gag, or comic episode, at the present moment is a most vital asset to practically every type of motion picture. With the great quantity of quality-lesa films now heing gronnd out, the gag and smart sub-title have time and again played the role of life-saver to many an otherwise doomed production. In fact, even melodramatic stories are vastly aided hy gagging, or better—called comic relief. For oftentimes, first visualizations go askew and a series of gags injected into a pictnre, will arouse the audience's dormant sense of humor, creating good will and sympathy for an effort that has fallen by the wayside.

Gags are seedlings, germinated from comic ideas snggested by a story, that are planted in it, take root in the plot and yield a running crop of laughs. Thay are grin-nuggets inlaid in a picture jewels that maka the movement of the story run hetter. Gagging, at present, is more or less of a hit-and-miss proposition. It is an art with a scientific technique, a fact which only a select initiate are aware of. The trained gag man can accurately predetermine tha langh-reactions of gags, and fnrthermore knows how to distribute them in an even current throughout a comedy. He also knows that there exist a stock number of gags, which It is his husiness to cut and refit to cover the raquirements of a particular story. In some future day the task of creating gags will no doubt evolve from the present hunt-and-peck system, and much of the wear and swear attendant upon comedy-making will consequently he reduced.

The comedy cinematographer is required to be an acrobat with his camera as well as a magician for attaining surprising effects. He comprehends the geometry of a scene and pretty well knows the acute angle that will do a gag the greatest justice. Too often, he finds it sensible to remain silent about a novel original idea, rather than donate it to an unappreciative head. Many times the success of an effect depends on a mere straw seen only by the cameraman, but inasmuch as the thought has not emanated from Mr. Director, it is passed over as being "not so good." Gags are subtle things requiring deft photography. Some of them hang by a fine wire, and that wire must be made as invisible as possible. On a comedy the cinematographer is figuratively, the gunner; the director, the range-finder; and the gag man, the breech-loader. A good gag hits home with a hang of roars. Shooting without positive aim is foolhardy. A gag sbould be figured out and broken down into the necessary number of strategic shots, with let-down moments for laugh-reports provided for between each shooting sequence. A poorly photographed gag can easily make a sure-fire gag back-fire. Some cinematographers shoot to kill miles of expensive film. due to the bad generalship of commanding officers. A well-prodnced comedy, like a good game of golf, is achieved in the minimum of shots.

It is high time that cinematographers commence being regarded as something more than mere camera-

The Art Of Getting Together

By GRANT CARPENTER
President of Screen Writers' Guild

One of the most amazing facts of the motion picture industry is that the representatives of so many arts and crafts have worked so many years in close and constant contact without making the slightest effort to effect the real co-operation and collaboration essential to the development and advancement of a complex art. More amazing still is the fact that producers have not encouraged them to do so, but on the contrary, seem to have interposed every possible obstacle to the rational solution of the greatest problem in production.

There was a time when the director knew all that was necessary to be known abont the production of a picture. The art developed so swiftly that one man could no longer handle the job, but the tradition endured. The producer clung to it until he found the director inadequate, then the writer and next the supervisor was permitted to dominate the picture and his associates, with exactly the same results. And so it has continued in circles and cycles, with only an occasional flash of genius to remind us that a languishing art still survives the manhandling to which it has been subjected.

Investing one with authority does not endow him with ability and the unintelligent exercise of authority by a writer over a director, or a director over a cinematographer inevitably results in disaster. The cinematographer has suffered least from such interference, because ths results would he instantly registered, and he who was freest from interference has made the greatest advancement in his art.

The producer, with no skill in any of the arts or crafts involved, cannot be expected to understand, much lsss solve, the complex problems that arise with each attempt to combine them in a singls artistic effort. When, driven by the lack of co-operation among the artists and craftsmen, he has attempted to do so, he has succeeded only in adding to the confusion. A perfect system can be evolved only by the artists and craftsmen themselves, and only with aid and encouragement of the producers.

Every man has his proper place and function in the production of a complex work of art, and each should make his own contribution within the well defined limitations and restrictions of his profession and without interference. One may contribute little and another much, but contention over their relative value is futile when all are essential and of equal importance.

If the producers were wise, they would say to the artists and craftsmen of the industry: "We can't get the co-operation we want. Get together and work out a system according to your ideas, and we will try it." They have alreadv made a gesture of that sort in the organization of ths Academy of Motion Picture Sciences and Arts, but it will be barren of results for the reason that the different branches of the Academy are not authoritatively representative. It is highly improbable that the producers will take the step indicated, so it seems to be the duty of the different professional organizations of the industry to take the initiative in an earnest effort to advance the art of picture making. The Screen Writers' Guild is ready to co-operate along these lines and awaits the action of other organizations.

crankers. It would be no more than an act of shrewd common sense to have them sit in with gag staffs, co-operating in the preparation of shooting material, studying it, making technical suggestions that could be prepared for in advance, instead of being thought of at the last minute. Cinematographers have remained silent partners too long for the benefit of all. Regardless of how brainy a director may be, he will always find the man behind the camera an invaluable consulting specialist on the gag composition of scenes. A gag well shot, has fully 30% more horse-laugh power and producers interested in improving the quality of their comedies would do well to re-appraise the box-office value of their cinematographers.

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"Hollywood in 1952"

Continued from Insert

nations and returning to us with tribute not only of rich treasure in trade and gold but of praise, gratitude, admiration and friendship.

"These years of progress and building will not be without an occasional set-back to take up the slack of rapid growth, but on the whole, there will be an irresistible impetus driving straight ahead to the glory that the Hollywood of 1952 is to be.

"Here will be seen shops such as New York, London, Paris, Berlin and Vienna never dreamed of—the style center of the world—shops like expositions, considerable cities in themselves. And, if my gift of prophecy be not at fault, New York will have yielded the theatrical, artistic and operatic palm to Hollywood genius, and here will be first staged the great dramatic and musical works of the world.

"Let us prepare now to share in this glorious future by upraising the fair fame of Hollywood in every way possible; by supporting her institutions and business establishments; by maintaining her community spirit; by encouragement of her civic welfare movements and by inculcating in the rising generation habits of decorum and thrift. So shall all in this community prosper and be happy!

"And above all, **don't sell Hollywood short.**"

Welcome to Dr. Sease

Dr. V. B. Sease, Director of the Redpath Laboratories and in charge of the Research Department of the Du Pont Manufacturing Company, is in our midst and is actively engaged in surveying photographic conditions in the actual production of motion pictures.

The remarkable strides made by the Du Pont Company for the betterment of motion picture film and the achievements accomplished by this organization have been very closely followed by the members of the A. S. C. and have brought the name of Du Pont very close to the heart of every cinematographer.

Dr. Sease's presence in Hollywood marks another step towards perfection in photographic values in motion pictures.

The "American Society of Cinematographers" takes great pleasure in extending to Dr. Sease its heartiest welcome and expresses its thanks to the Du Pont Corporation for having made his visit to Hollywood possible.

LISTEN TO THIS

* * *

Frank King
36 Crestwood Ave.
Buffalo, N. Y., Oct. 17th, 1927.

Advertising Manager,
American Cinematographer,
1219 Guaranty Bldg.,
Hollywood, Calif.

Dear Sir:
Will you kindly cancel my advertisement which I ordered to run for two months, on selling my Debrie camera outfit?
I got fully a hundred queries on this ad, and sold the camera a few days ago.
This again demonetretes to me, as it has done before, that there is nothing like advertising in the A. S. C magazine, for results if you have anything to sell.

Very truly yours,
FRANK KING.

* * *

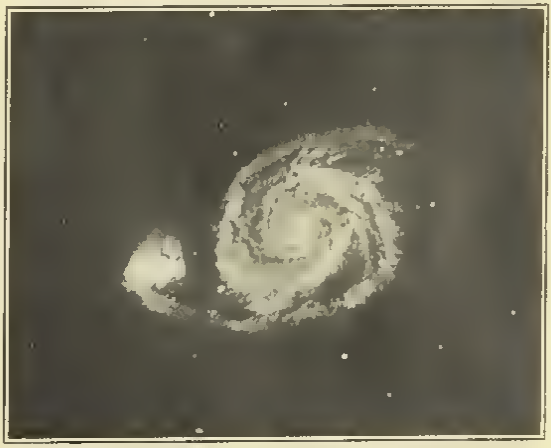
Do You Think It Pays To Advertise In The American Cinematographer?

Celestial Photography

By Alfred H. Joy

(Continued from Page Four)

spectrum lines indicate what elements are present in the stars, as well as the density, temperature, mass, velocity, and distance. While most of the observations are made in the blue portion of the spectrum with ordinary photographic emulsions, many exposures are made on panchromatic plates, or plates dyed for special regions. Reflecting telescopes are especially useful for spectrum observations because light of all colors is focused at the same point.



Spiral nebula photographed with the 60 inch reflector of the Mount Wilson Observatory. These beautiful objects are stellar systems like our Milky Way. The distance is estimated to be over a million light-years.

The problems of astronomical photography are similar to those of cinematography in that the most rapid emulsions of fine grain are required, and in that a knowledge of the action of light of different colors upon the photographic plate is of fundamental importance.

An Anniversary

Just one year ago, Mr. Fred Hoeffner, popular Hollywood mechanic and experimentor, put on the market the TRUE-BALL TRIPOD HEAD which has proven of great help to the cinematographer.

Mr. Hoeffner points out with just pride that the very first of these instruments to be marketed has been for one year in the hands of Mr. Charles Clarke, A. S. C., and has not required the least readjustment or repair. Seventeen professional heads are now at work among studios and free-lance cameramen.

Eighteen months ago, Mr. Hoeffner started manufacturing the amateur model of the TRUE-BALL HEAD and not less than 1035 are now carrying his name to all parts of the world.

The AMERICAN CINEMATOGRAPHER takes pleasure in extending to Mr. Hoeffner its best wishes and congratulations on his contribution to the cinematographer's art.

Production has been started on Clara Bow's next picture, "You Will Marry Me." Alfred Gilks, A. S. C., is chief cinematographer.

Heliochromy

Notes from Lecture to Paramount Scientific Research Club

By FRED MCBAN
Physicist to A. S. C.



Fred McBan

Since the popularity of colored cinema photography seems to have found its place in the public mind, heliochromy, or the art of producing photography in colors, is justified if only from the angle of psychology, that color, like music, as a language science, has been repeatedly acknowledged. To stimulate better box office results, motion picture producers would do well to take a leaf out of the notebook of some of our exhibitors who so ably apply the psychology of color in their prologues and posters.

A remedy for the stagnant condition existing at the box office would be to pay more attention to the balance or making up of the program.

Every effort seems to be concentrated on the feature picture, but little on the short end, or program filler, yet both are necessary if we are to have a well balanced program.

A noteworthy effort has been made by the Paramount organization in approving for the Autumn release a number of short subjects along fantasy lines. They are, I am informed, "The Elegy," "Fury," "Fantasy," and others; all photographed by members of the A. S. C.

These short subjects have been ably treated from the photographic angle by using panchromatic and supersensitive film stock, giving all the delicate pastel-like shadings in color gradation.

The story conception, treatment, and direction was the work of Andrew Stone, evidently a new comer, with new thoughts. It is conceded by everyone concerned that no angle of the motion picture art has advanced more in proportion than that of cinematography. However, with the continued research work in motion picture film, the incandescent lamp being used as a photographic lighting medium and the carbon companies treating the carbons with various mineral salts for color rendition, motion picture photography will continue to improve over and above the excellent results we are getting at the present time.

In spite of petty criticism in the press, Jesse Lasky is essentially an idealist. Idealists are necessary to the motion picture business because a motion picture is an individualistic creation, further by the continued maintenance and approval of the Pomeroy department, it is obvious that the motion picture going public, more than approved this department's work in the Ten Commandments, Peter Pan, Wings, and other productions. However, the color field is virgin. Insofar as motion pictures are concerned, we are only on the fringe, the utmost edge of its possibilities. As to why Southern California is and should continue to be the home of the movies the answer to my way of thinking, is in the psychological appeal of color.

Seldom does the average human stop to pause and think of the psychological effect of light and color on our many moods and temperaments. Light, the very heart beat of life so to speak, with all its delicate shading and balance in complete accord with nature. Let us attempt to analyze in a simple manner our own beautiful California. The greens and blues of the Pacific Ocean. Green, nature's characteristic color, with its adaptability for harmonious blending. Blues, serene, sedate, yet dignified, the silver strand of the beaches clearly signify cleanliness, life, and freedom from any semblance of sordidness. The browns and verde greens of the foot

(Continued on Page 24)

Short Negatives Wanted!

PATHE REVIEW, The Screen Magazine, is in the market to buy short negatives of subjects suitable for its use covering human interest stories, travel, oddities, unusual industrial subjects, and novelties, including trick camera work, unusual camera angles, subjects with humor—in general anything that is interesting and entertaining.

PATHE REVIEW subjects range in length from 100 to 300 feet. Prompt payment is made upon acceptance of negative, the price being based upon footage used and the quality and interest of the subject.

We invite correspondence with free lance and production cameramen with ideas, and all submissions will receive prompt consideration.

Negative may be submitted either developed or undeveloped. Complete description and data for guidance in titling should accompany negative.

Address all correspondence and film

—to—

S. Barret McCormick, Editor
PATHE REVIEW
35 West 45th St. New York

Cinema Psychology

By MALCOM KNIGHT

In observing a picture the audience senses more unconsciously than consciously. There is a rythmic harmony between the action, setting and photography which is unconsciously felt by the audience and either lends to or detracts from the action. A good picture should be like an anesthetic to the audience; they are simply lost to the world until the picture is finished. If the audience can view a picture and remain conscious throughout it is not a good picture. A comprehension of the psychological principles of settings and photography in relation to the action assists in making the picture truly artistic and forceful. Thus unifying action and atmosphere and making a rhythmic whole of the production which gets the audience unconsciously into the swing of the picture.

General diagram of the psychology of lines, varied by lighting:

Straight lines and mass:—
- Positive
- Strength
- Weighty
- Thoroughly sane

Angles:—
- Unreality
- Weakness
- Fear
- Suspicion
- Insanity
- Anger and hatred, being forms of insanity, crossed lines forming angles.

Curves:—
- Beauty
- Romance
- Gentleness
- Indecisive
- Questioning

General diagram of the psychology of focus, varied by lighting:

Sharp	Soft:—
Positive	Romantic
Forceful	Relaxing
Stimulating	Soothing
Exciting	Appealing
	Dreary or lonely

The psychology of the majority of our present pictures is a hit or miss proposition. The continuity is written, the picture is shot, cut, titled and out and if any particular unit along the way should really give it much thought the picture would be ruined for it would throw it all out of proportion.

The most forceful pictures are pictures of balance. A well balanced life is one properly balanced between physical, emotional, mental and spiritual expression. How many of our motion pictures are properly balanced? Most of them are purely physical and emotional and cannot have a great deal of force because they are so unbalanced.

The motion pictures of the future will be pictures with the acting simple, human, sincere and convincing. The settings and photography blending, harmonizing, supporting the action. The story, well balanced, having proportionately physical, emotional, mental and spiritual expression. These pictures will be produced by artists for it is the artistry within a person that recognizes the art in the works of another. Many artistic writers, directors, cameramen, etc., find it impossible to put any creative artistry into pictures because of the sad truth that the one who has the authority simply does not have the artistry within himself to make him capable of either seeing or bringing out the artistry in those working under him. But old Father Time has ironed out many faults. So will he do with motion pictures. With the mass mind of the picture going public developing critically and artistically at the rate it is now progressing it will not be long until the hit or miss picture will be a thing of the past. The readjustment period that the picture industry is commencing to undergo right now is brought on by the fact that the picture-going public has advanced artistically faster than the ability of the majority of the producers to keep ahead of them.

So hang on, artists, don't give up the ship. We know that in order to be successful in pictures it has required ten percent talent and ninety percent wind because a producer as well as anyone else can only see in others what he has within himself. But the light of a new day is dawning. The day of the man who can give something to pictures will take the place of the man who can only take from pictures.

Tremont Comes To Town

Horn and Glickman Invest $100,000 in Model Laboratory on Seward

Having made an enviable reputation and, incidentally, a sizeable fortune handling motion picture film in New York, Edward Horn and Harry Glickman, of the old Tremont Laboratory, 1944 Jerome Street, come to Hollywood to settle down for good and they are showing their faith in the permanence of our local motion picture industry by investing more than $100,000 in a new laboratory at 823-5-7-9 Seward Avenue.

The new structure, which Mr. Horn describes as the finest and most up-to-date laboratory in the industry, is building under the supervision of H. A. McMurphy, architect, and will be completed and ready for operation about January 1, 1928.

The design of the building is in the popular Mayan style, aged and tinted and its ground dimensions are 80x88 feet. Its foundations, walls and roof are built to support a second story which will be added later.

The specifications call for a building embodying every possible safe-guard against damage by fire. It is said to be the only film laboratory with a 100 percent sprinkling system. Its equipment calls for all metal furniture and fixtures, not a stick of wood being permitted in the building. Direct connection with the Western Union alarm system is a part of the provision against fire, while the two Mosler steel storage vaults, for additional protection, are built outside the main plant.

Other features of the equipment are a specially constructed basement to house the battery of boilers; oil fuel system; vapor proof light globes; cooling and heating air system; chemical room on mezzanine; full bonded roof with floating ceiling providing a six feet heat resisting air pocket.

The ceiling is seventeen feet in the clear making the air circulation as near perfect as possible. This system was installed by the Southwestern Engineering Corporation.

This investment in the future of Hollywood and the stability of the motion picture industry on the West Coast by Messrs. Horn and Glickman is another evidence of the recognition of our Film Capital as the hub of the industry, and the A. S. C. and "The American Cinematographer" cordially welcome them to this field.

The Tremont will specialize in negative and first prints.

Heliochromy

By FRED MCBAN

(Continued from Page 23)

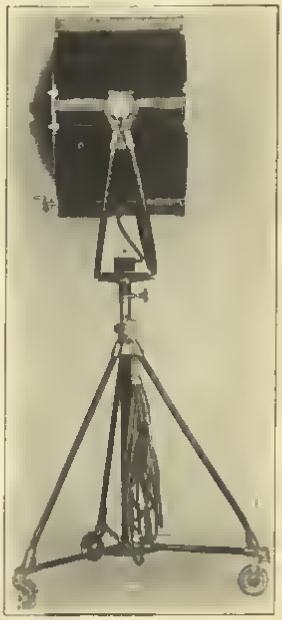
hills, a warmth of welcome with an atmosphere of dignity. The azure blues of the sky with its crowning impressiveness, all massed into one grand ensemble in harmonious symphony. All of this is what makes California incomparable for motion picture production.

As a progressive step for the advancement of knowledge, motion picture producers as a body should get together and pool their individual efforts by establishing a physical research laboratory as a part of the Motion Picture Academy of Arts and Sciences, for the benefit of themselves and the motion picture going public generally.

SHOOT 'EM WITH SUN SPOTS



Mole-Richardson SUN SPOT globe lamps for the lighting of motion picture sets have come to stay. The pioneering is over. The experimentation is successful and the lamps have made good in every test. Producers of motion pictures are recognizing that the lamps are not only superior in every way to the old system of lighting, but that they pay their way in the elimination of waste through the saving of time, labor, and retakes.



The producer who is trying to get beauty into his pictures through superior photography will be amazed at the wonderful results attained through the use of Mole-Richardson SUN SPOT lights as compared with the old system of lighting, now becoming rapidly obsolete. The demand for greater beauty in films is answered by Mole-Richardson lights. Ask the cameraman. He knows.



The superiority of Mole-Richardson SUN SPOT globe lamps is acknowledged by all who have used them. They are the result of exhaustive research, intelligent experimentation and skillful workmanship. Producers are reminded that this organization with its perfect equipment, excellent facilities and economy of production through volume of output is able to build this class of lights at a material saving under studio construction. There is always one superior product in every line. In that of incandescent globe lamps for studio use Mole-Richardson SUN SPOTS are easily the class.

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CAMERAS WANTED—Wanted Bell & Howell, Model B, with 120 degree shutter. Can be without magazines, lenses, or tripod. Low price for cash. W. Vinton, 35-51 Wardour Strrst, London, England, W. 1.

173-DEGREE Bell and Howell wanted. Have 1924 Buick Sport Touring car, in excellent condition, as down payment. Remeinder to be paid within six months of purchase. Write or phone Hermen Schopn, care of the A. S. C., 1218 Guaranty Building, Hollywood, California. GRanite 4274 or GRanite 4704.

WILL PUT you in touch with buyers for Bell & Howell cameras and equipment. Phone or write the A. S. C., 1222 Guaranty Bldg. GRanite 4274, Hollywood, California.

FOR SALE—CAMERAS

FOR SALE—New Eyemo camera, carrying case, extra magazine. Price $225. Call Ben White, OX 7335.

FOR SALE, CAMERAS—One Universal camera, dissolving shutter, two-inch B. & L. lens, almost new Burke & James tripod, three magazines, carrying case. This is in very good condition and can be bought for $200.00. Frank King, 36 Crestwood Ave., Buffalo, N. Y.

UNIVERSAL Motion Picture Camera 200 foot model, plain front, automatic dissolve, 3-200 foot magazines, single view finder, 1-50 m m. B. & L. Trsear F. 3.5 in spiral focusing mount completely overhauled; good as new. List price $500.00. Will sell for $200.00 cash. Burke & Jamrs, Inc., Chicago.

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DEBRIE, alaminum box, dissolving shutter, 3 magazines, Mitchell tripod, 40, 53, 75 mm. Carl Zeiss lenses. Thalhammer irle. Veeder footage recorder, ¼-way mot box. Glen MacWilliams, c/o A. S. C., Hollywood.

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BELL & HOWELLS, Mitchell Speed Camera, Akeley Camera, special 17-inch Dahlmeyer lense. John Jenkins, GRanite 2174.

MITCHELL and Bell & Howell cameras. F.1.8 and F.2.3 lens equipment. All kinds of lenses and equipment for rent. John S. Stumar, 2302 Cardiff Ave., Palms, Los Angeles. Phone: Culver City 5542; or call C. Glonner, Camera Dept., Universal City, HEmpstead 5131.

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NEW Eyema camera, fully equipped; rent by day or longer. Joe La Shelle, Hollywood, 653 No. Sierra Bonita Ave., DR 3730, Hollywood.

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CAMERAS, ALL KINDS—Akeley, Bell & Howell 170°, also Speed, De Vry, Graflex, Still, (late model Anscos). For rent by day or week to responsible parties. Ries Bros., Ries Building, 1152 No. Wrstern Ave. Phone GRanite 1185. Residence HO 1055.

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MITCHELL and Bell & Howard Cameras. F.2.3, F.2.7, F.3.5 lenses—40-50-75 mm. Complete equipment. J. R. Lockwood 523 North Orange St., Glendale, California. Glendale 3361-W, or HOlly 3784.

E. BURTON STEENE, Bell & Howell, and Akeley. Complete Camers equipment. Latest models. Address American Society of Cinematographers, Hollywood, California.

BELL & HOWELL, 170, with 30, 40, 50 and 75 lens equipment. Baby tripod. Also B. & H. Cine motor. Charles Stumar, GRenite 3845. 7301 Lexington Ave., Hollywood.

BELL & HOWELL No. 527. Five lenses: 32, 40 (f.2.7), 50 (f.2.7), 75, 100 mm. Complete studio equipment, gauzes, filters, etc. GLadstone 0033.

TWO Bell & Howells. Large finders. Also Eyemo for rent. Lenses: F 2.5, 2.3; 2.7. Frank M. Cotner, 6273 Selma Ave., Hollywood. HOllywood 5046.

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WILL TRADE—Carl Zeiss, F. 3.5, 50 mm. lens in B. & H mount. Trade for late model Veedor Counter. Bert Longenecker, 537-724.

FOR EXCHANGE—Practically new lens. Goerz Dogmer F. 4-5. Six inch focal length. Want F. 3.5 four inch. Zeiss Tessar preferred. Call John W. Boyle, GRanite 2213 or Ira Hoke, GRanite 5033.

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ONE 8x10 still camera—complete. Care A. S. C., GRanite 4274.

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FOR SALE, LENSES—Brand new 2½x3¼ Beusch & Lomb Tessar lens in a Bell & Howell mount, $35.00. Also an Iris for DeBrie camera, $30.00 and a new 100 foot capacity Stinemen outfit with two reels, and three tanks for $50.00. Frank King, 36 Crestwood Avenue, Buffalo, N. Y.

FOR SALE, LENSES—Carl Zeiss, F. 3.5, 50 mm., mounted in latest B & H mount. Looks like new. Perry Evans, 413 No. Mariposa Ave., Hollywood, California.

ONE two-inch Beusch & Lomb F.2.7; one Dahlmeyer Pentac 37 mm F 2.9. Georges Benoit, care of American Society of Cinematographers, Hollywood, California.

CARL ZEISS, F. 2.7, 53 mm. in Bell & Howell mount. Don Clark, care American Society of Cinematographers.

NEW 45 mm. Goerz Hypar f 3.5, lens in Bell & Powell mount; price, $30.00. Write Charles Clarke, 1222 Guaranty Building, Hollywood, California.

RUO LENSES—Sole U. S. Agent. Robert Acherschott, 1575 N. Vine St., Hollywood. 25 mm. to 100 mm.; F 2. and F. 2.5 (Latest type: Telephoto, 10-inch, F. 4.5).

CARL ZEISS, 50 mm., F. 3.5, in Bell & Howell mount, $50; without turret mount sleeve, $41.50. Write Gaylord A. Wood 1321¾ N. Wilcox Ave., Hollywood, Calif.

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USED SIMPLEX wanted. State model, price, condition, etc. Address Box R American Cinematographer.

WANTED—MISCELLANEOUS

WANTED, CAMERA—170 degree Bell & Howell camera. Would like Mitchell tripod. Harry H. Cooper, 851 No. Fuller Street. Phone GL 8283.

WANTED, CAMERA—Universal, DeBrie, or Bell & Howell, for animation work. Will pay $400. Call Mr. Schelmo Protrey Art Studio, 4355 Hollywood Boulevard. Phone OR 3804.

WANTED—Photographs of nature, birds and animals, etc; for educational library. E. R. Gammage, Animated Film Library, Westlake, La.

WANTED—Second hand 35 mm standard film step printer. Must be in first class condition, hand cranked or motor driven, will pay all cash or trade in good Universal camera with tripod as part payment. What have you to offer. Charles Locffell, Sioux City, Iowa.

FOR RENT, LENSES—Trick lenses of all descriptions for rent by day or week. Call George Meehan, A. S. C. Phone GR 3330. 744 North Curson Ave., Hollywood, California.

FOR SALE—SPECIAL CAMERA EQUIPMENT

COMPLETE new style Bell & Howell matt box for sale. Joseph B. Walker, 1037 N. Sycamore Ave., Hollywood. Phone GLadstone 3797.

FOR SALE—100 ft. lengths of raw film with 18 ft. black leader on each end, suitable for hand camera, $3.25 each. John Jenkins, 2343 Sunset Blvd., Hollywood, Calif.

PATHE panorama head for professional camera, with detachable aluminum tilting head, easily adapted to any standard tripod. A first-class unit for some one, who is experimenting or engaged in research work, to add to their equipment. Stephen S Norton, care A. S. C. Guaranty Bldg., Hollywood.

REPAIRS, CAMERAS—Universal camera parts in stock. Complete overhauling of motion picture cameras given prompt attention. Send your camera in for an estimate. Burke & James, Inc., Chicago.

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